

WHAT IS CLAIMED IS:

1. A method for providing telecommunication service comprising:  
receiving an incoming call request;  
generating a processing event, in response to the incoming call request;  
5 transmitting the processing event to an operating space;  
notifying an agent that the processing event is stored in the operating space;  
retrieving the processing event from the operating space with the agent;  
identifying a rule set with the agent, wherein the rule set is associated with the  
processing event, and wherein the rule set comprises one or more rules;  
10 identifying a communication device based on the one or more rules; and  
forwarding the incoming call request to the communication device based on  
the one or more rules.
2. The method of Claim 1, wherein the event comprises an event type and  
15 wherein notifying an agent comprises notifying an agent associated with the event  
type.
3. The method of Claim 1, wherein the incoming call request identifies a  
user and wherein identifying a rule set comprises identifying a rule set associated with  
20 the user identified by the incoming call request.
4. The method of Claim 1, wherein the rule set comprises a first  
hierarchical subset, comprising one or more rules, and a second hierarchical subset,  
comprising one or more rules, and wherein forwarding the incoming call request  
25 comprises forwarding the incoming call request based on the rules in the first  
hierarchical subset and based on any of the rules in the second hierarchical subset that  
do not contradict rules in the first hierarchical subset.
5. The method of Claim 1, wherein the operating space comprises a  
30 Javaspace.

6. The method of Claim 1, wherein forwarding the incoming call request comprises:

deciding to route the incoming call request to a voicemail account based on the rule set;

5 generating a voicemail event;

placing the voicemail event in the operating space;

notifying a voicemail agent that the voicemail event has been placed in the operating space; and

10 forwarding the incoming call request to a voicemail system with the voicemail agent.

7. The method of Claim 1, wherein forwarding the incoming call request comprises:

transmitting a ring signal to a communication device;

15 generating a voicemail event, if an offhook signal is not received within a predetermined time;

placing the voicemail event in the operating space;

notifying a voicemail agent that the voicemail event has been placed in the operating space; and

20 forwarding the incoming call request to a voicemail system with the voicemail agent.

8. A system for providing telecommunication service comprising:  
a double agent, operable to generate a processing event from an incoming call request and store the event in an operating space, and further operable to retrieve a processed event from the operating space and forward the incoming call request based on the processed event;  
an operating space, operable to store the processing event and operable to store the processing event;  
a plurality of rule sets, wherein each rule set comprises one or more rules for processing the incoming call request; and  
a processing agent operable to:  
retrieve the processing event from the operating space;  
identify a rule set associated with the processing event;  
generate a processed event based on the identified rule set; and  
store the processed event in the operating space.
9. The system of Claim 8, wherein the processing event comprises an event type and wherein the operating space is further operable to notify processing agents associated with the event type that the double agent stored the processing event in the operating space.
10. The system of Claim 8, wherein the incoming call request identifies a user and wherein the processing agent is further operable to identify a rule set based on the identified user.
11. The system of Claim 8, wherein the one or more rules comprises a first hierarchical subset, comprising one or more rules, and a second hierarchical subset, comprising one or more rules, and wherein the processing agent is further operable to generate a processed event based on the first hierarchical subset and based on any of the rules in the second hierarchical subset that do not contradict rules in the first hierarchical subset.

12. The system of Claim 8, wherein identifying an available operating space comprises a Javaspacespace.

5 13. The system of Claim 8, further comprising a voicemail agent, and wherein the double agent is further operable to forward the incoming call request by:  
sending a ring signal to a communication device;  
waiting a predetermined period of time after sending the ring service request;  
placing a voicemail event in the operating space;  
notifying a voicemail agent of that the voicemail event has been placed in the  
10 operating space;  
forwarding the incoming call request to a voicemail system.

14. The system of Claim 8, further comprising a voicemail agent, and wherein the double agent is further operable to forward the incoming call request by:  
15 determining based on the rule set that the incoming call request should be routed to a voicemail account ;  
generating a voicemail event;  
placing the voicemail event in the operating space;  
notifying a voicemail agent that the voicemail event has been placed in the  
20 operating space; and  
forwarding the incoming call request to a voicemail system with the voicemail agent.

15. A computer program stored on a computer readable medium, the computer program operable to:

- receive an incoming call request;
- generate a processing event, in response to the incoming call request;
- 5 transmit the processing event to an operating space;
- notify an agent that the processing event is stored in the operating space;
- retrieve the processing event from the operating space with the agent;
- identify a rule set with the agent, wherein the rule set is associated with the processing event, and wherein the rule set comprises one or more rules;
- 10 identify a communication device based on the one or more rules; and
- forward the incoming call request to the communication device based on the one or more rules.

16. The computer program of Claim 15, wherein the processing event comprises an event type and wherein the computer program is further operable to notify an agent by notifying an agent associated with the event type.

17. The computer program of Claim 15, wherein the incoming call request identifies a user and wherein the computer program is further operable to identify a rule set by identifying a rule set associated with the user identified by the incoming call request.

18. The computer program of Claim 15, wherein the rule set comprises a first hierarchical subset, comprising one or more rules, and a second hierarchical subset, comprising one or more rules, and wherein the computer program is further operable to forward the incoming call request by forwarding the incoming call request based on the rules in the first hierarchical subset and based on any of the rules in the second hierarchical subset that do not contradict rules in the first hierarchical subset.

19. The computer program of Claim 15, wherein the operating space comprises a Javaspacespace.

20. The computer program of Claim 15, wherein the computer program is further operable to forward the incoming call request by:

deciding to route the incoming call request to a voicemail account based on the rule set;

5 generating a voicemail event;

placing the voicemail event in the operating space;

notifying a voicemail agent that the voicemail event has been placed in the operating space; and

10 forwarding the incoming call request to a voicemail system with the voicemail agent.

21. The computer program of Claim 15, wherein the computer program is operable to forward the incoming call request by:

transmitting a ring signal to a communication device;

15 generating a voicemail event, if an offhook signal is not received within a predetermined time;

placing the voicemail event in the operating space;

notifying a voicemail agent that the voicemail event has been placed in the operating space; and

20 forwarding the incoming call request to a voicemail system with the voicemail agent.

22. A system for providing telecommunication service comprising:
- means for receiving an incoming call request;
  - means for generating a processing event, in response to the incoming call request;
  - 5 means for transmitting the processing event to an operating space;
  - means for notifying an agent that the processing event is stored in the operating space;
  - means for retrieving the processing event from the operating space with the agent;
  - 10 means for identifying a rule set with the agent, wherein the rule set is associated with the processing event, and wherein the rule set comprises one or more rules;
  - means for identifying a communication device based on the one or more rules;
  - and
  - 15 means for forwarding the incoming call request to the communication device based on the one or more rules.